# FACILITY STATUS CHANGE FORM

| Date Submitted: | Area: | Control #: |
|---|---|---|
| March 7, 2013 | 300 Area | D4-300-082 |
| **Originator:** | **Facility ID:** | |
| Chris Strand | 337, 337B, 337BA, and 3718M | |
| **Phone:** | **Action Memorandum:** | |
| 554-2720 | Action Memorandum #3 | |

**This form documents agreement among the parties listed below on the status of the facility D&D operations and the disposition of underlying soil in accordance with the applicable regulatory decision documents.**

## Section 1: Facility Status

☒ All D4 operations required by action memo complete.

☐ D4 operations required by action memo partially complete, remaining operations deferred.

**Description of Completed Activities and Current Conditions:**

Deactivation: Utility isolations were performed on the facility prior to beginning facility decontamination.

The following hazardous materials were removed prior to facility demolition: batteries, Freon, oils, light ballasts, glycol, electronics and miscellaneous construction materials. Asbestos was removed from all facility components prior to above-grade demolition with the exception of insulation surrounding Composite Reactor Component Test Assembly (CRCTA) vessel located in a caisson beneath the 337B basement. Asbestos in this location was inaccessible, but protected and not impacted during above-grade demolition. Following debris removal from the 337B basement, the CRCTA vessel with it's attached asbestos insulation was removed intact and in one piece. Hazardous material removal and waste disposition was performed in accordance with *Removal Action Work for 300 Area Facilities*, DOE/RL-2004-77, Revision 2 (RAWP).

Demolition: Demolition of the of the 337BA and 3718M buildings were completed in October 2009. The building debris were removed and disposed of at ERDF. Explosive demolition of the 337 and 337B buildings was completed in October of 2010. The above-grade inert building debris was used to fill the 315C Sedimentation pond immediately to the north. The demolition was performed under Industrial Hygiene controls. Asbestos abatement was performed by certified asbestos workers.

Additional details regarding demolition sequence and methodologies is provided in Attachment 1.

**Description of Deferral (as applicable):**

N/A

## Section 2: Underlying Soil Status

☐ No waste site(s) present. No additional actions anticipated.

☒ Documented waste site(s) present. Cleanup and closeout to be addressed under Record of Decision.

☐ Potential waste site discovered during D4 operations. Waste site identification number <to be> assigned.

Cleanup and closeout to be addressed under Record of Decision.

**Description of Current/As-Left Conditions:**

Below-grade portions of 3718M, 337, and 337B were left in place as clean structures. The area was backfilled with 3763 slab debris (reference Attachment 3) and borrow material from Pit 6.

**Identification of Documented Waste Site(s) or Nature of Potential Waste Site Discovery (as applicable):**

300-15 process sewer segments remain in the area and will be addressed as part of ongoing 300-FF-2 Operable Unit remediation.

## Section 3: List of Attachments

1. Facility information (building history, characterization, and identification of documented waste sites).

# FACILITY STATUS CHANGE FORM

2. Project Photographs.
3. EPA Approval for Use of the 3763 Slab as Fill.
4. Civil Survey of Remaining 337 Complex Below-Grade Structures.
5. National Priorities List Change Form (NPL) 140.
6. GPERS Surveys of the 3718M Excavation.

| | |
|---|---|
| [signature] | 3/12/13 |
| DOE-RL | Date |
| Larry Gadbois | March 13, 2013 |
| Lead Regulator ☒ EPA ☐ Ecology | Date |

**DISTRIBUTION:**

EPA: Larry Gadbois, B1-46
Ecology: Rick Bond, HO-57
DOE: Rudy Guercia, A3-04
Document Control, H4-11
Administrative Record, H6-08 (300-FF-2 OU)

SIS Coordinator: Ben Cowin, H4-22
D4 EPL: Chris Strand, L4-45
Sample Design/Cleanup Verification:Theresa Howell
FR Engineering: Eric Ison, L6-06
FR EPL: Chris Strand, L4-45

# Attachment 1: Facility Information

**337BA, 3718M, 337, and 337B Facilities:**

The 337BA, 3718M Sodium Storage Building, 337 Technical Center, and 337B High Bay comprised the 337 Complex, which was located in the southeastern portion of the 300 Area. The 337 Complex (with the exception of the later addition of the 337BA) was constructed in 1970 as the High Temperature Sodium Facility who's basic purpose was to test FFTF reactor equipment in a molten sodium environment. These activities supported engineering studies in support of FFTF and the Liquid Metal Fast Breeder (LMFBR) program at Hanford.

**337 Technical Center**

The 337 Technical Center consisted of two identical wings that ran east-west and were both 165 ft by 50 ft by 50.5 ft in height. The wings were constructed of pre-cast concrete wall panels set on structural steel framing placed on a 4 inch reinforced concrete slab with footings. Between the wings was an open, landscaped courtyard. On the east side of the office wings was a lunch facility that was connected to the offices via one of the adjoining wings.

A service wing, mechanical room, and service tunnel connected the Technical center with the 337-B High Bay. These areas consisted of HVAC intake and exhaust shafts; elevator pit with sump; mechanical shafts #1 thru #3; mechanical room with two sumps, and the tunnel connecting the mechanical room to the 337B High Bay building to the west.

**337B High Bay**

The 337B High Bay was 176 ft 10 in by 76.5 feet and 93 ft tall. This facility included full basement extending to -20 ft below-grade. The walls of the building were constructed of 1 ft thick pre-cast concrete panels. The building contained a 100 ton capacity overhead gantry crane and a catwalk around the upper perimeter. A railroad spur entered the building at the northeast corner. On the south side of the 337B Building was the inert gas storage system foundation pad. In the southeast corner of the building, was the Core Mechanical Mockup that was part of the Fast Flux Test Facility (FFTF) test equipment. The basement level of the building contained 3 caissons; the primary was 40 feet deep and contained a one quarter scale mock up of the FFTF reactor. The other two caissons were 15 feet and 18 feet deep respectively and contained additional test equipment.

**3718M Sodium Storage Building**

The 3718M Building was located on the west side of the 337B High Bay and was 86 ft by 23 ft and 12 ft tall. Construction was of concrete and cinder block with a metal roof. The building included a 14 ft deep basement that contained 50,000 gallon liquid sodium storage tank that was set on a reinforced concrete pedestal. A railroad spur was constructed on the north side of the building to facilitate the delivery of sodium to storage tank, but this spur has been removed.

Starting in the mid 1990s and continuing into 2000, the High Temperature Sodium Facility was deactivated and all sodium was removed as part of the Hanford Site Sodium Management Plan.

## 337 Boiler Annex

The 337BA was constructed in 1997 and was a pre-engineered metal building set on a concrete slab. The annex contained two natural gas fired boilers and a sump that received blow-down that was pumped to the process sewer. 337BA provided steam to the 337 Complex.

## 337 Complex Demolition:

Prior to initiating demolition at the 337 Complex, the U.S. Department of Energy, Richland Operations Office (DOE/RL) and U.S Environmental Protection Agency (EPA) entered into an agreement via National Priorities List Change (NPL) Change Control Form 140 to remove the 337 Technical Center and above-grade portion of the 337B Building from the non-time critical removal actions established in Action Memorandum #3 for 300 Area Facilities. Removal of these structures was transferred under DOE/RL authority.

Demolition began with removal of the 337BA and 3718M buildings in October 2009 and included demolition of foundations to 3 feet below-grade. In October 2010, the 337B and 337 buildings underwent explosive demolition. Because the above-grade portion of 337B and 337 were removed from the 300 Area non-time critical removal action, the inert debris was not eligible for disposal at the Environmental Restoration Disposal Facility and was, therefore, was used to fill the 315C sedimentation pond following removal actions at that facility (reference Facility Status Change Form D4-300-047).

Following debris removal from the 337B basement, the Composite Reactor Component Test Assembly (CRCTA) vessel was removed intact as one piece from the 337B basement in October of 2011. Removal was necessitated by the need to abate friable asbestos insulation located between the vessel and caisson walls. Following removal of the CRCTA vessel and asbestos insulation, the caisson was filled with Control Density Fill and left in place. The CRCTA vessel and asbestos waste was disposed of at ERDF.

Final below-grade demolition of 337B was completed in December 2012 with backfill being completed March of 2013. The basement walls were demolished to 3 feet below grade and fill was completed to match area grade that slopes downwards to the east.

## Building Characterization:

Table 1 summarizes the industrial hygiene, radiological control, and asbestos samples collected in the 308 Building.

**Table 1. Summary of Characterization Surveys at the 337 Complex.**

| Type | Date | Documented In | Results Summary |
|---|---|---|---|
| Pre-Demolition | | | |
| Asbestos | May 24, 2007 | CCN# 133840 (3718M) | Friable and Category I ACM identified in TSI tank insulation and gaskets. |
| | May 2, 2006 | CCN# 227451 (337BA) | No ACM identified. |
| | May 3, 2007 | CCN# 133650 (337) | Friable, Category I, and Category II ACM was identified in multiple forms and locations including TSI insulation, floor tile, and mastics. |
| | September 19, 2007 | CCN# 135952 (337B) | Friable, Category I, and Category II ACM was identified in multiple forms and locations including TSI insulation, floor tile, and mastics. |
| IH Surveys and Beryllium Characterization | February 14, 2006 | CCN# 125491 (3718M) | Be free, all other contaminants below action levels |
| | February 4, 2010 | BFA-3718M-2010-02-04 (3718M) | Be free, all other contaminants below action levels. |
| | December 14, 2005 | CCN# 125095 (337, 337B) | Be free, all other contaminants below action levels. |
| | March 19, 2007 | CCN# 132565 (337, 337B, 3718M) | Be free, all other contaminants below action levels. |
| | December 6, 2007 | CCN# 0588207 (337BA) | No Be above action levels. |
| Radiological Surveys | June 20, 2006 | RSR-300PS-07-1180 (3718M) | All results non-detect. |
| | July 14, 2008 | RSR-300PS-08-2175 (3718M & 337BA) | All results non-detect. |
| | March 27, 2007 | RSR-300-PS-07-0635 (337) | All results non-detect. |
| | March 29, 2007 | RSR-300PS-07-0662 (337) | All results non-detect. |
| | July 24, 2007 | RSR-300PS-07-1387 (337) | All results non-detect. |
| | October 1, 2007 | CCN# 058362 (337B) | Non-radiological determination for the building. |

## Associated WIDS sites:

300-15 process sewer was connected to the 337BA, 337B High Bay and 337 Technical Center. The process sewer will be addressed by 300-FF-2 remedial actions.

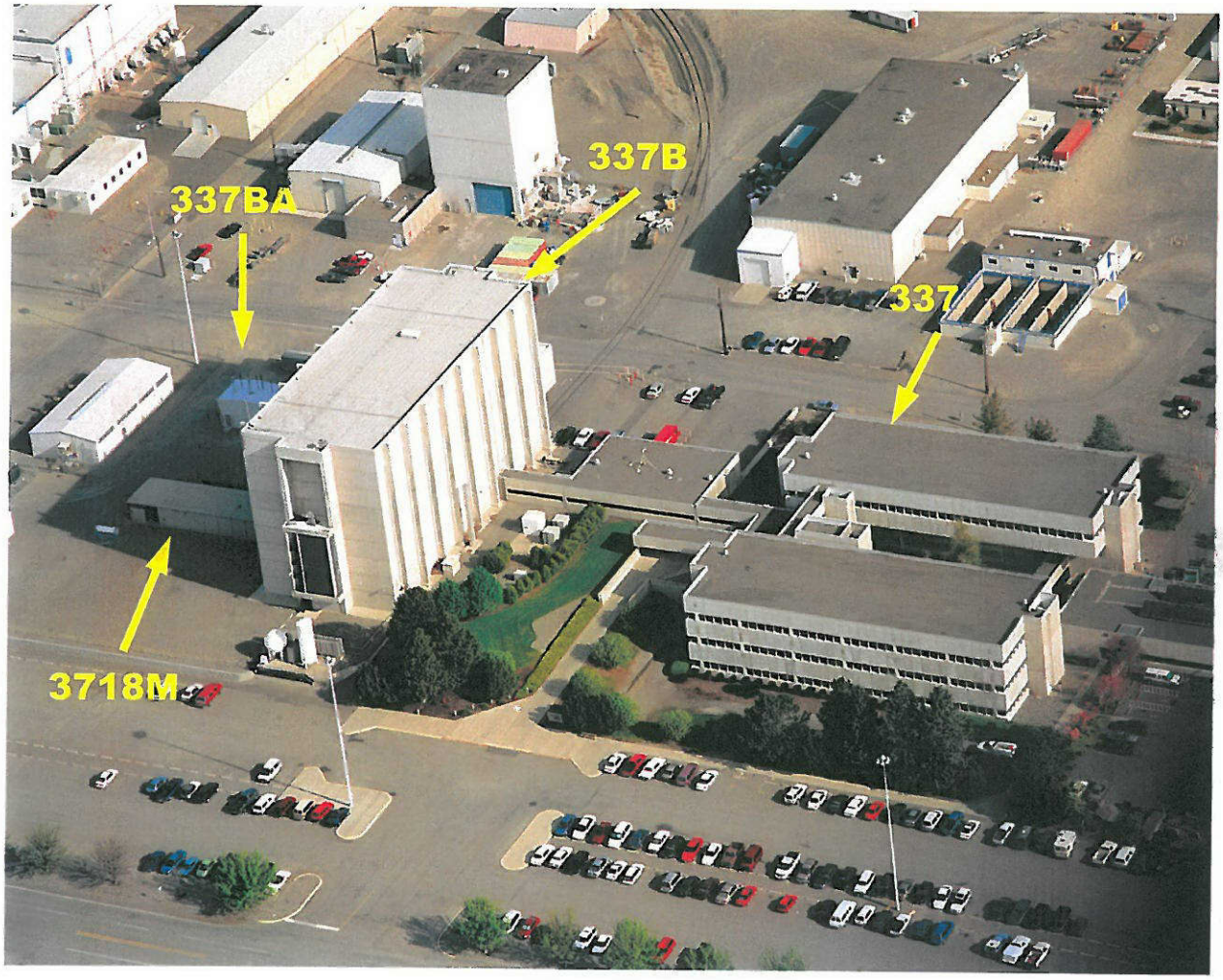
**Anomalies Discovered During Demolition.**

No anomalies were discovered during the demolition of the 337 Complex. Soils around the foundation displayed no visual evidence of staining or discoloration and are located outside of the 300 Area Underground Radioactive Material Area. Soils around the 3718-M excavation underwent GPERS surveys (Attachment 6) and were composite sampled for use as backfill. All analytical results met 300-FF-2 remedial action goals.

Based on the soil evaluation at 3718M and the radiological free status of the 337 Complex, no other GPERS surveys were performed. No postings remain in the area.

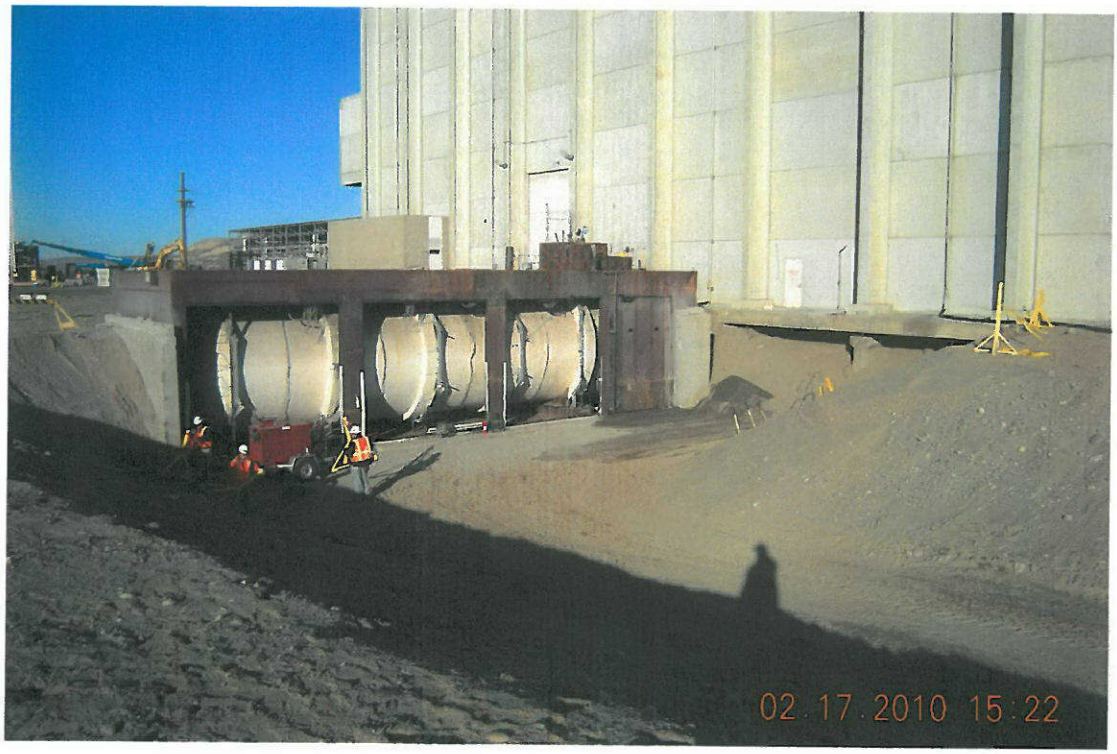
# Attachment 2: Project Photographs

**Photograph 1. Aerial looking northwest at the 337 Complex in 1999.**



**Photograph 2. Looking southeast at 337BA on March 30, 2006.**


**Photograph 3. 3718M during below-grade demolition, looking northeast on February 17, 2010. (Note: the sodium storage tank is visible within the blow-grade vault)**



**Photograph 4. Looking north during 337B explosive demolition preparations on September 25, 2010.**


**Photograph 5. Looking north as the 337B under goes explosive Demolition on October 11, 2010.**

**Photograph 6. CRCTA vessel being lifted from the caisson in the 337B basement, looking northwest on October 10, 2011.**

**Photograph 7. Looking northeast at the 337 Complex following backfill, March 7, 2013.**


**Photograph 7. Looking southeast at the 337 Complex following backfill, March 7, 2013.**

## Attachment 3: EPA Approval to Use the 3763 Slab as Fill.

## Strand, Christopher P

**From:** Larry Gadbois [Gadbois.Larry@epamail.epa.gov]
**Sent:** Wednesday, July 18, 2012 2:00 PM
**To:** Guercia, Rudolph F
**Cc:** Strand, Christopher P
**Subject:** RE: Proposed Use of Clean Slab Debris for Backfill

EPA concurs.

"Strand, Christopher P" ---07/18/2012 01:52:04 PM---Larry, Attached is the follow-up GPERS survey beneath the 3763 slab, no

From: "Strand, Christopher P" <cpstrand@wch-rcc.com>
To: Larry Gadbois/R10/USEPA/US@EPA, "Guercia, Rudolph F" <rudolph.guercia@rl.doe.gov>
Date: 07/18/2012 01:52 PM
Subject: RE: Proposed Use of Clean Slab Debris for Backfill

Larry,
Attached is the follow-up GPERS survey beneath the 3763 slab, no contamination discovered. With EPA concurrence, the 3763 slab debris will be relocated to the 337B area for use as backfill. The 3506C slab has not been removed yet. I will follow up with a final survey for this slab when removed.

Thank you,

Chris

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**From:** Larry Gadbois [mailto:Gadbois.Larry@epamail.epa.gov]
**Sent:** Thursday, July 12, 2012 8:22 AM
**To:** Guercia, Rudolph F
**Cc:** Strand, Christopher P
**Subject:** Re: Proposed Use of Clean Slab Debris for Backfill

EPA concurs with the proposal to use the concrete as backfill after confirmation it is not contaminated.
EPA expects the top 3 feet of backfill to be soil rather than debris.
Please let me know if you have any questions regarding this topic.
--Larry--

"Strand. Christopher P" ---07/12/2012 07:38:35 AM---Larry, It is proposed to use the concrete from two slab removals for use as

From: "Strand, Christopher P" <cpstrand@wch-rcc.com>
To: Larry Gadbois/R10/USEPA/US@EPA, "Guercia, Rudolph F" <rudolph.guercia@rl.doe.gov>
Date: 07/12/2012 07:38 AM
Subject: Proposed Use of Clean Slab Debris for Backfill

Larry,

It is proposed to use the concrete from two slab removals for use as lower fill in the 337B basement. The slabs are 3506C and 3763, both of which are located outside the 300 Area URMA. GPERS has been run on the surfaces (maps attached) that establishes both as uncontaminated. Following removal, the soil surface will be surveyed to confirm the bottom of slab condition. If acceptable to the EPA, a follow-up email confirming bottom of slab cleanliness via GPERS maps will be provided and the concrete will be used as fill.

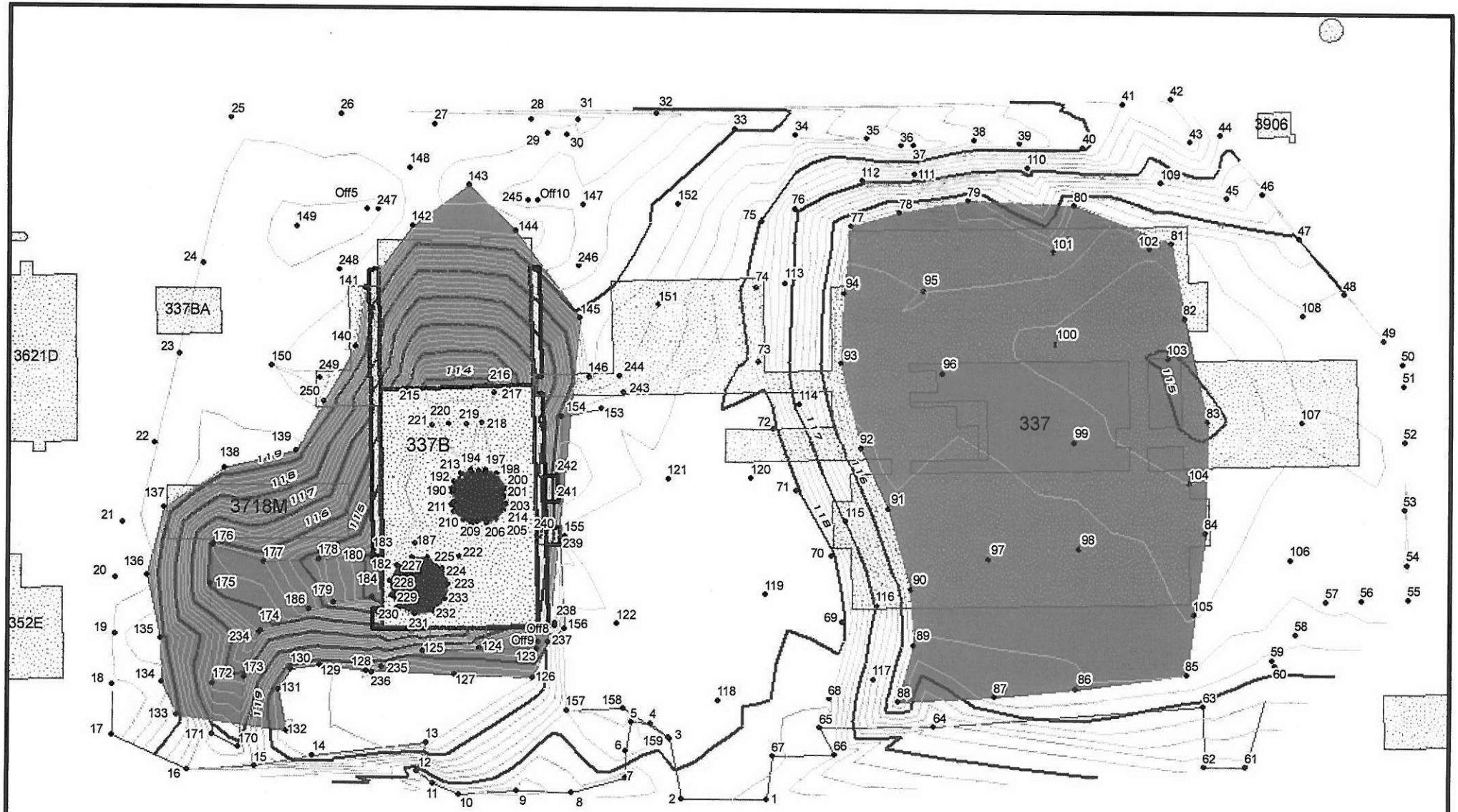
Also, there are a fairly significant number of excess ecology blocks located throughout the 300 Area that could be used as fill. We would like to stage them at 337B, perform surveys and document on RSR, and use as lower-course fill too.

Thanks,

Chris
554-2720

<<ESRFRM120112C.pdf>> <<ESRFRM120111.pdf>> *(See attached file: ESRFRM120112C.pdf)(See attached file: ESRFRM120111.pdf)* [attachment "ESRFRM120114C.pdf" deleted by Larry Gadbois/R10/USEPA/US]

# Attachment 4: Civil Survey of Remaining 337 Complex Below-Grade Structures.




GPS Survey Points
*See Survey Report for Point Details*

Post Demo Survey Surface
Major Contour Interval (1 Meter)
Minor Contour Interval (.2 Meters)

337B Tank Pad Locations
High Bay Floor
Toe of Excavation
Top of Excavation

Pre Demoliton Building Locations

# Post Demolition Survey for the 337 & 337B Buildings

US State Plane 1983
Zone: Washington South 4602;
NAD83, NAVD88; Units are in Meters

0 12.5 25 50 Meters

N

WCH:08/30/11:V:\maave\ArcMap\300A\337-postdemo.mxd 5:10:54 PM

# Attachment 5: National Priorities List Change Control Form (NPL) 140

(6)

| Control Number: NPL-140 | NPL Agreement/Change Control Form<br>__X__ Change ____ Agreement ____ Information<br>Operable Unit(s): 300 Area Removal Action | Date Submitted: 9/11/08<br>Date Approved: 9/11/08 |
|---|---|---|

**Document Number/Title:**
*Action Memorandum #3 for the 300 Area*

**Date Document Last Issued:**
December 17, 2007

**Originator:** Megan Proctor

**Phone:** 372-9930

**Summary Discussion:**
*Action Memorandum #3 for the 300 Area* documents the non-time-critical removal action for approximately 110 facilities located in the southern portion of the 300 Area on the Hanford Site. One of the expectations outlined in the action memorandum is that facilities found to be free of CERCLA hazardous constituents will be excluded from the CERCLA removal action, and will be addressed under DOE authority. The facilities listed below are currently included in the 110 facilities to be addressed under Action Memorandum #3:

337 – Technical Management Center
337 B – High-bay and Service Wing

The 337 Building is free of CERLCA hazardous constituents and therefore should be addressed under DOE authority.

The 337B Building is free of CERCLA hazardous constituents; excluding an asbestos-lined tank that sits roughly 60 feet below grade at the lowest point. Asbestos abatement and tank removal would pose enormous risk to worker safety and could possibly impact a culturally sensitive area. The above-grade portion of 337B will be explosively demolished. The asbestos-lined tank will be maintained in a safe configuration and will be addressed under a future CERCLA decision document (e.g., new action memorandum or new Record of Decision). If the tank remains in place any necessary provisions (i.e., institutional controls) will be detailed in the appropriate CERCLA documentation.

**Justification and Impact of Change:**
Approval of this change designates exclusion of the 337 Building and the above-grade portion of the 337B Building from the non-time-critical removal action described in *Action Memorandum #3 for the 300 Area.*

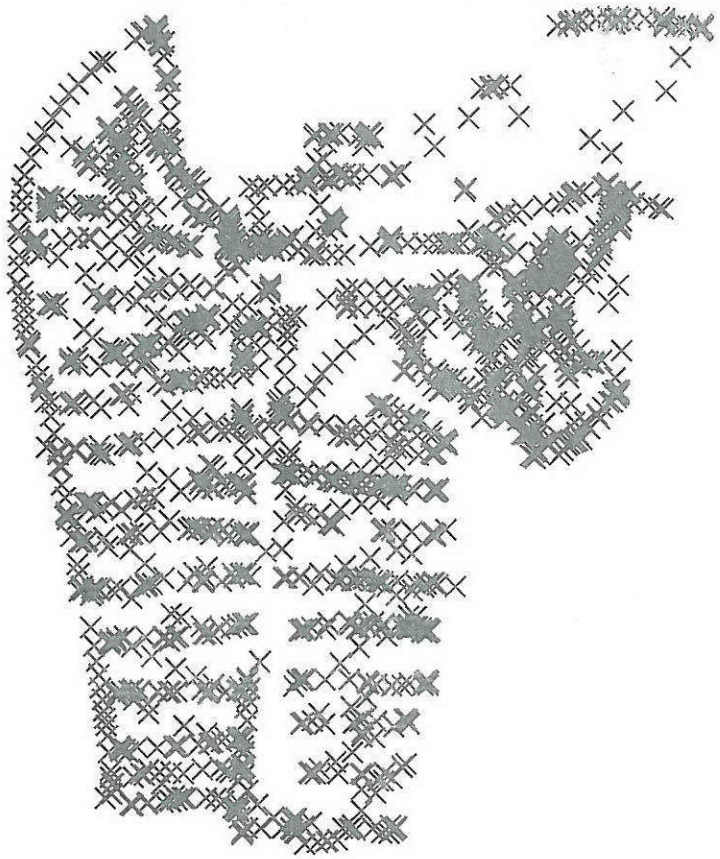
Removal activities performed to date have been performed in accordance with the Removal Action Work Plan for the 300 Area (DOE/RL-2004-77). Upon approval of this agreement, all further removal activities for the facilities listed above, with the exception of the below-grade portion of 337B, will be performed under DOE authority.

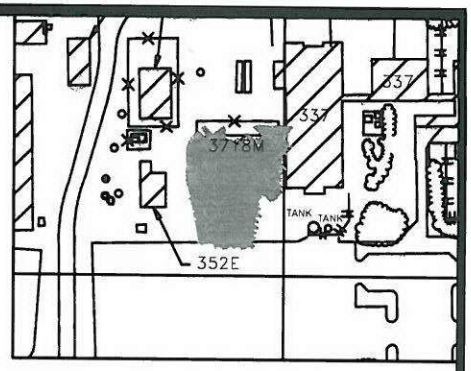
| | |
|---|---|
| **DOE Project Manager:** [signature] | **Date:** 9/10/08 |
| **EPA Project Manager:** Alicia F Boyd | **Date:** 9/10/08 |

**Per Action Plan for Implementation of the Hanford Consent Order and Compliance Agreement Section 9.3**

# Attachment 6: GPERS Survey of the 3718M Excavation

N






Site View

Copy

Bkg Location
1439 cpm

Legend

NET CPM

- < 2878
- 2878 - 5000
- 5000 - 10000
- 10000 - 25000
- > 25000

Summary Statistics

Coverage File: PS019A
Number of Data Pnts: 2055
Type of Survey: 'Gamma'
Max GCPM: 1925
Avg Bkg CPM: 1439
Survey Date: 01/19/2010
Area Surveyed: 934 m^2
Project File: PS019A
Pdf File: ESRFRM100004C

# 300D4 Field Remediation
# 3718M Excavation
# GPERS Radiological Survey
# Gamma Track Map

0 4 8 12 16 Meters

Environmental Excellence HANFORD

EBERLINE SERVICES HANFORD, INC.

Survey Map Prepared By Bruce Coomer, ESI